



## **Advances in Umi-Sci-Ed Project: the Teachers' Perspective on Networking and Educational Robotics in Italian High-Schools (\*)**

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Science education and scientific careers represent two crucial challenges in the European context as drawn by the effort and the wide time and funding investment from the European countries, in the support of researches on innovative ways to make disciplines as Science, Technologies, Engineering, and Math (STEM), as well as the scientific careers (entrepreneurship, academic choices, etc.), appealing for young people. Academic organizations (University of Helsinki, Norwegian University of Science and Technology and University of Pisa) and Technological Institutions (CTI, CIT, CUBIT) with an extensive expertise in the corresponding state-of-the-art technology and the educational use of the "Ubiquitous Learning, Mobile Learning, Internet of Things" ("UMI") received a specific fund from the European Union's Horizon 2020 research and innovation program for a "Exploiting Ubiquitous Computing, Mobile Computing and the Internet of Things to promote Science Education" "(UMI-Sci-Ed)" project. Within this project, the University of Pisa spent several efforts to involve Technical Institutes (ITIS) in experimental educational activities in which the students are involved in active learning processes through the use of UDOO (i.e., a single-board computer with an integrated Arduino compatible microcontroller, designed for computer science education). The aim of the present work is to present results from a specific "piloting phase". Purposely, accordingly to a social-constructionism perspective, five interviews and one focus group with teachers of the "computers and telecommunications" and "electronics and robotics" curricula, have been conducted and the results here reported, applying qualitative and quantitative data analyses. These earlier findings will be discussed focusing on the most shared "images" on the perception of the innovative socio-constructions pedagogical approach proposed by Umi-Sci-Ed sketching-out new possible framing on teachers' STEM educational processes and learning.

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